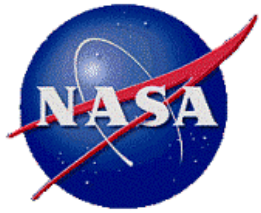


NPG 7120.5B: NASA Program and Project Management Processes and Requirements

Overview of Significant Revisions

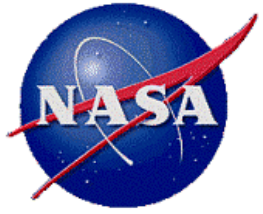
PMCWG

November 2002



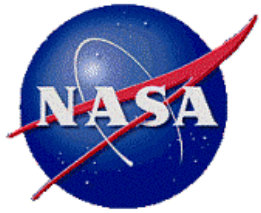
Outline

- Objective of the Presentation
- Why the New Version?
- The Fundamentals are Reinforced
- The Most Significant Revisions
 - NASA Integrated Action Team (NIAT) Related
 - Process Improvements
 - Public Law
 - Move Away from Lead Centers
- Applicability to Existing Programs/Projects
- Further Training and Resources



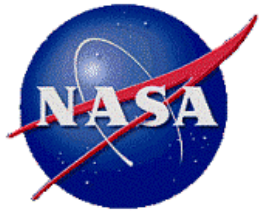
Objectives of the Presentation

- Provide overview of changes in newly revised NPG 7120.5B, “Program and Project Management Processes and Requirements”
- Identify key areas of emphasis
- Highlight new requirements



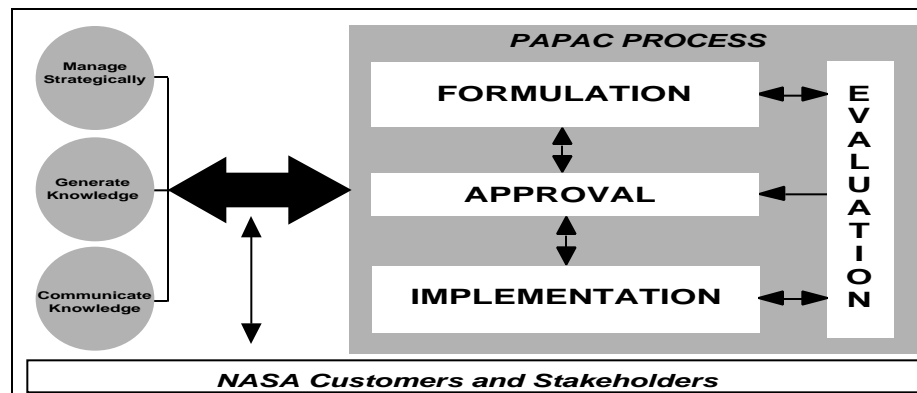
Why the New Version?

- NIAT recommended changes were incorporated to enhance mission success based on analysis of Mars mission failures, Shuttle wiring problems, and assessment of early application of Faster, Better, Cheaper philosophy in order to better focus on risk management
- Incorporate additional process improvements from 4 years of experience with 7120.5A
- Incorporate increased Agency emphasis on safety, security, environmental, and performance measurement
- Improve usability (e.g., eliminate redundant material, clarify use of “shall/will” statements, improve graphic material)
- Reflect changes to public law, regulations
- Incorporate key Inspector General recommendations (National Environmental Policy Act, IT security)

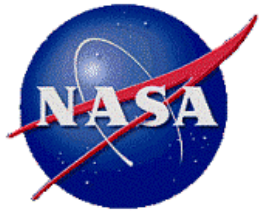


The Fundamentals are Reinforced

- Basic process and sub-processes remain intact

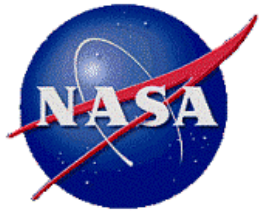


- Controlling documents are still the baseline (Formulation Authorization Document (FAD), Program Commitment Agreement(PCA), Program Plan, Project Plan)
- Thorough planning & definition are still required prior to approval
- Programs/projects still report to a Governing Program Management Council (GPMC)
- Independent reviews are still conducted
- “Shall” requirements remain as “what” (not “how”)
- Tailoring of approach to requirements permissible consistent with defined program/project characteristics



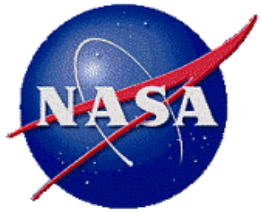
Most Significant Revisions From NIAT Actions

- Emphasis on the understanding, management, and communication of risk early in the process and throughout the project lifecycle
 - New requirement for defining success criteria early in the process and continually evaluating to guide risk decisions throughout the project lifecycle
 - Success Criteria: That portion of the top-level requirements that define what will be achieved to successfully satisfy the strategic plan objectives addressed by the program, project or technology demonstration.
 - Defined “acceptable risk” and added requirement for documentation and approval
 - Acceptable Risk. The risk that is understood and agreed to by the program/project, GPMC, Enterprise, and other customer(s) sufficient to achieve the defined success criteria within the approved level of resources.



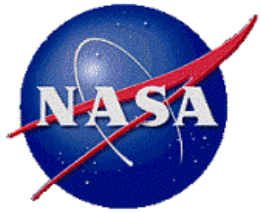
Most Significant Revisions From NIAT Actions (cont)

- Emphasis on the understanding, management, and communication of risk early in the process and throughout the project lifecycle (cont)
 - Strengthened Risk Management requirements and cited risk assessment tools such as FMEA and PRA for appropriate use
 - Clarified the requirement that performance, cost, and schedule margins be established, regularly reviewed, and appropriately balanced and controlled
 - Reinforced requirements for verification and validation of hardware and software (including IV&V where appropriate)



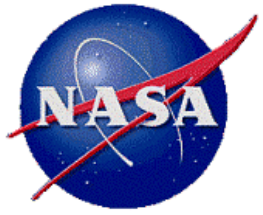
Most Significant Revisions From NIAT Actions (cont)

- Emphasis on “people” and teams
 - Recognize the critical roles of the people on the project team
 - Emphasis on staffing teams with the “right people at the right time” throughout the project lifecycle
 - Strengthened Project and Program Manager responsibilities for the development of their staff/support personnel
- Highlighted the role and responsibilities of Center line management in the execution of programs and projects
 - Staff & development of personnel
 - Supporting activities (e.g., reviews, GPMC approvals)
 - Lessons learned & knowledge sharing
 - Open communications & trust



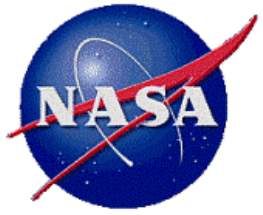
Most Significant Revisions For Process Improvement

- Safety added as a theme throughout the document
 - Program and project plans to address activities and steps to ensure safety of the public, the NASA astronauts and pilots, the NASA workforce, and NASA's high value equipment and property
- Security added as a theme and new section delineating requirements for personal and physical security, IT security, export control, and foreign involvement on programs/projects
- Requirements for IT planning and control clarified
- New section on Risk Based Acquisition Management that describes activities during planning, solicitation, and surveillance phases
- Additional emphasis on initial technology assessment, plans for filling gaps by developing technologies, and infusing new technologies into projects



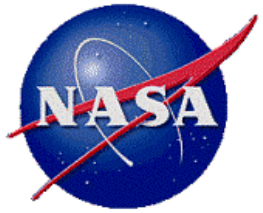
Most Significant Revisions For Process Improvement (cont)

- Explanation and requirements for integrating a continuum of internal and external reviews of the programs and projects
- Added/strengthened requirements for program/project managers to capture and report lessons learned during the life cycle, and to report at each major milestone how lessons learned have been applied
- Changes to PCAs can now be separated into major and minor classes. Major changes still require the Administrator to approve, minor changes can be approved by the Deputy Administrator
- PCA template streamlined



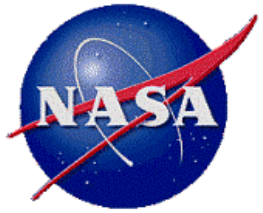
Most Significant Revisions For Process Improvement (cont)

- Formulation Authorization Document (FAD), or equivalent, is required as the primary guide to formulation activities for programs/projects, and represents a new requirement for projects
- Greater emphasis on compliance with environmental requirements, and in particular, the National Environmental Policy Act
- Added requirement for planning the disposition of program/project assets at end of useful life (e.g. deorbit)
- Projects are required to address logistics support needs by including in plans for life cycle
- PCA, Program, and Project Plan templates modified to incorporate new requirements in sections for reviews, technical assessment, safety and mission success, termination review criteria



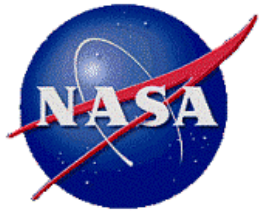
Most Significant Revisions For Process Improvement (cont)

- All document templates modified to clarify lines of accountability
- Clarified the intent that tailoring for programs/projects apply to approach, not to the requirements



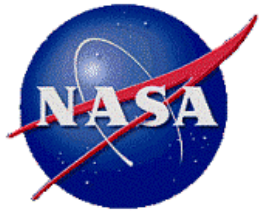
Public Law Changes

- Added requirement that an Independent Life Cycle Cost Analysis be performed and certified by the NASA CFO during formulation for projects expected to exceed \$150M
 - Complies with P. L. 106-391, the NASA Authorization Act of FY2000



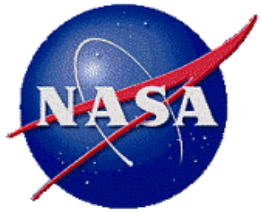
Move Away from Lead Centers

- Administrator O’Keefe requested that Lead Centers be removed from the NPG as a part of the anticipated changes in the strategic management of programs and projects
 - This change to NPG 7120.5B will precede the same changes being made to the Strategic Management Handbook
- NPD 7120.5B provides flexibility to the Enterprise AA to determine which program management model will be used either for a specific program or for the entire Enterprise
- The Enterprise AA is responsible for allocating budgets across programs and Centers
- The Enterprise AA will make the program management assignments, either appointing or approving a Center Director recommendation for Program Manager (if the EAA is assigning program management responsibility to the Center)



Applicability to Existing Programs/Projects

- Programs/projects already in implementation phase should
 - Review the NPG for requirements compliance; identifying gaps
 - Revise documentation to reflect those changes
 - Work with the accountable GPMC and the EAA on those things that need to be changed or on required tailoring
- Programs/projects in formulation must follow NPG 7120.5B to achieve approval for implementation
- GPMCs (with IPAO and SMOs) will be evaluating to assure appropriate approach and compliance



Further Training and Resources

- The document can be found at

http://nodis3.gsfc.nasa.gov/npg_img/N_PG_7120_005B_/N_PG_7120_005B_.pdf

- On-line materials/course on 7120.5B will be subsequently hosted on the APPL website - <http://appl.nasa.gov/>
 - Other APPL programs will be updated accordingly
- Localized training may be offered at Centers - check with local SMOs and Training Organizations
- Sample synopses of changes produced by various System Management Offices will be hosted on the APPL website